

Claims: I claim:

**1.** A method of creating a defocused image from an existing image, comprising:

- (a) providing a memory which is able to store a series of pixel data,
- (b) storing a series of input pixel data in said memory,
- (c) storing a series of output pixel data in said memory,
- (d) storing a series of aperture pixel data in said memory,
- (e) providing a characteristics function in a mathematic form for converting logarithmic data scale to linear scale,
- (f) providing a display which is operatively connected to said memory for displaying said series of input pixel data, said series of output pixel data, and said series of aperture pixel data,
- (g) providing a computer processing unit which will:
  - (1) reset the contents of said series of output pixel data to zero,
  - (2) convert the scale of said input pixel data to linear scale using said characteristics function,
  - (3) compute a series of pixel data of a defocused disk for each pixel of said input pixel data,
  - (4) add said series of pixel data of a defocused disk to said series of output pixel data until all of said series of input data are processed, and
  - (5) convert back the scale of said output data to logarithmic scale using said characteristics function,

whereby said display will display an defocused image using said a series of output pixel data.

**2.** The method of Claim 1 wherein the aperture shape is given by a set of mathematical functions;

**3.** The method of Claim 1 wherein the characteristic curve is given by a table for individual values.